



Gujarat Technological University

Centre for Industrial Design (Open Design School)

Organizes:

Online 54th Faculty Development Program (Level 1)

Design Engineering (3rd + 4th + 5th + 6th Semester)

Date: 8 to 11 June, 2020 (54th FDP – Basic Level 1)

Venue: Online over WebEx/Zoom Platform

Time: 10.00 am to 1.00 pm (3 hr/day)

Kindly register here: <https://forms.gle/SGxHeUgs21L4xCiE8>

Message for Principals/ Directors/ HODs/Design Coordinators:

For every group of 30 students, in every Branch, please make sure that at least one Faculty Member must be trained through FDPs at GTU.

GTU introduced courses of Design Engineering through Design Spine, during the academic year 2014-15, from 3rd to 6th semester. Design Engineering is a very unique and pioneering initiative of GTU and it is based on “**Design Thinking**” methodologies developed and used by engineers and designers all over the globe. One of the key objectives of this initiative is to infuse the methodology of Design Thinking into the mind-set of the students and the faculty members for enhancing problem solving skills so that it is used in the study of all the core branch related subjects. Other core objectives include; To stimulate thought process and creativity among the students, To learn problem-solving techniques, To develop Innovative solutions for daily problems of citizens, To lessen the copy-paste in the Project work etc.

GTU's Centre for Industrial Design – OPEN DESIGN SCHOOL has taken up the challenge of implementing this course in all the affiliated engineering colleges of GTU. Since AY 2014-15, Centre for Industrial Design – OPEN DESIGN SCHOOL has organized total 53 Faculty Development Programs (FDPs) since 2014, in which more than 4000 faculty members from

139 Engineering colleges across the state, from more than 15 branches, have been trained for Design Thinking at various level.

Now, as we all are facing difficult time due to this COVID-19 virus outbreak and trying to fight this situation through lockdown at our home. Let us utilize this time to develop skills in Design Thinking and Innovation by developing mind-set and attitude of Innovators and entrepreneurs. During this tough time, the **Centre for Industrial Design in collaboration with EXPLORRA - IRF** is bringing **Design Engineering FDPs for faculty members** with new and refined hands-on exercises, presentations, examples and techniques of Design Thinking and that is also through **ONLINE Modules**. The revised guidelines published on the website (Link: <http://goo.gl/xZ2L1S>) talk about little change in the approach for projects that students will take from 3rd to 6th semester, but the Design Thinking process would remain same.

This basic introductory level 1 FDP will cover the whole Design Thinking process and approach to be taken from 3rd to 6th semester for Design Engineering suitable for all the Faculty Members who want to acquaint with Design Engineering subject and never attended FDP before. We will shortly announce Intermediate (level 2 & 3) and advance level (level 4 & 5) FDPs for those who have attended FDPs earlier. However, we encourage institute to allow faculty members who already attended basic level to attend this FDP to refine their learning and for more practice.

Exclusive features of Online FDP:

- Online live lecture (i.e. not recorded video) learning through lots of hands-on exercises, videos, case studies and examples
- e-Workbook to support the online learning
- Working on Real life issues with practical based learning
- Expert Masterclass during FDP by eminent academicians and industry partners
- Recording of the session will be available after FDP

It is expected and will be ensured that faculty members shall be able to address these at the end of the FDP,

- Understanding Design Engineering structure, content, syllabus, evaluation scheme
- Need for Design, Innovation & Entrepreneurship to develop healthy ecosystem
- Understanding of the 21st Century Skills needed by Professionals nowadays
- Design Thinking processes, best practices & nuances
- Creative problem solving using Design thinking process, Innovation through Tools-techniques
- Teach Design Engineering/Thinking to students in class room and Start-ups
- Be able to do a design thinking project on their own

Workshop Program: (Level 1 – Basic – Online)

Day 1:

- **Welcome & Orientation session** – Introduction to Design Engineering Course
- **Design Thinking** – Introduction, Its importance, socio-economic relevance
- **Design Thinking** – WHY, WHAT, HOW
- **Hands-on** – Experience the Design Thinking process yourself

Assignment post session: Find out the challenge that you would like to work on and form a team with colleague or any participants

Examples for Challenges:

- Solution to fight Corona Virus Outbreak (any topic you may choose like masks, sensitization, social distancing, testing kit and ways etc.)
 - Traffic, parking, pollution, public transportation related issues
 - Healthcare for rural people
 - Cleanliness and hygiene issues
 - Online and remote learning (Education)
 - Agriculture issues
- Etc. (Faculty members can also select a domain of their choice)

Day 2:

- **Empathy** – Observation, Immersion and Interview techniques
- **Hands-on exercises** to understand tools and techniques for Observation & Empathy
- **Summarization of Data** - Analysis of Data gathered during Observations through Mind Mapping, AEIOU
- **Empathy Mapping & Problem Definition** – Canvas Preparation

Assignment post session: Gather the data from the field and through secondary research, preparation of various frameworks and canvases as discussed during session

Day 3:

- **Ideation** – Brainstorming techniques to Innovation
- **Ideation Canvas** – Canvas Preparation
- **Product Development** – Form, Function, Features
- **Product Development Canvas** – Canvas Preparation

Assignment post session: Generation of lots of Ideas, Conceptualization, Developing product architecture and preparation of various canvases

Day 4:

- **Reverse Engineering** – Redesigning Branch Specific artefact/component/product
- **Disassembly & Identify Technical aspects**
- **Prototyping techniques**

- Building rough prototype (Hands-on activity)
- Recap on FDP and reflect on learning

Assignment post session: To avail certificate of FDP, kindly complete and submit below work within one week on design@gtu.edu.in.

- ✓ Small Case let/learning report describing the project done with process in word document
- ✓ Record and send a video of learning outcome (1-2 min)
- ✓ Complete prototype and upload the picture/video of prototype
- ✓ Feedback form and suggestions

Note:

Certificate will be only issued to the participant upon successfully completion of training for all four days and submit the above work within one week.

FDP Coordinator:

Ms. Kavita Kripalani, Dy. Director, GTU.

For more information, kindly visit: <http://www.de.gtu.ac.in>

Should you have any query, kindly write us on: design@gtu.edu.in

Profile of Experts:

Mr. Karmjitsinh Bihola, Sr. Manager, Innovation & Start-up, EXPLORRA – IRF (Anchor Faculty and FDP Mentor)

Mr. Bihola is a Design Thinker at mind-set and an Entrepreneur at heart, having master degree in Mechanical Engineering with specialization in Product Design from Stevens Institute of Technology, New Jersey, USA. He is working as an evangelist to develop, implement and spread the awareness about the concept of Design Thinking, Innovation & Entrepreneurship in higher education and corporate across globe.



He was working as an Assistant Professor in Centre for Industrial Design (Open Design School) at Gujarat Technological University, Ahmedabad, Gujarat from Oct 2014 to Feb 2020. At GTU, he has developed the Design Spine, workshop modules and evaluation system from 3rd to 6th semester across engineering at bachelor level for "Design Engineering" subject at GTU, India. This subject is based on Design Thinking methodology and every year, approx. 100K students are enrolling for this course in GTU. He has been training faculty members for Design Thinking from Basic to Advance level and till date trained 4000+ faculty members of engineering through 53 Faculty Development Program (FDP) of four days each. Apart from FDPs, he has been organized and mentored various workshops like Design Weekend for students, Design Clinic for Industry, Summer & Winter School (Rigorous 3-4 weeks residential program to imbibe Design Thinking methodology), Hack-a-thons, Design Demo Day, Design and Innovation Bootcamp, Design Sprint events, Design Thinking seminars for Students/Start-ups/Faculty members/Industry peoples and Government officials.

**Mr. Rohit Swarup, Founder Director, EXPLORRA and Managing Trustee, IRF
(Faculty for Masterclass during FDP)**



Mr. Swarup is an entrepreneur passionate about Business & Education Model Development, and, Innovation interventions for both public & private organizations. He is recipient of **Shiksha Bharti Puraskar & Indian Leadership Award for Educational Excellence**. Having 20+ years of diverse experience in field of Design, Innovation & Entrepreneurship, he is also working closely with international educational institutions – Red River College, Canada & Guiyang University, China for proliferation of design, innovation, technology and new age education. A regular guest at Doordarshan TV programs on Digital media & design. A Sr. Consultant & Jury Member at National Institute of Design (NID). He has delivered 350+ Workshops & Lecture Series on “Innovation & Design Thinking” across globe.

Mr. Swarup is one of the advisor for development of GTU’s Design Engineering course and establishment of Centre for Industrial Design (OPEN DESIGN SCHOOL). He is regularly conducting Workshops & broadcast sessions for training faculty members of engineering domain of Gujarat Technological University on innovation, new age requirements and design pedagogy.

Sd/-
Registrar, GTU